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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/018,789	12/21/2001	Alfred Ernst Buck	077680-0116	1901
22428	7590	04/05/2005	EXAMINER	
FOLEY AND LARDNER SUITE 500 3000 K STREET NW WASHINGTON, DC 20007			TRAN, HIEN THI	
			ART UNIT	PAPER NUMBER
			1764	

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/018,789

Applicant(s)

BUCK, ALFRED ERNST

Examiner

Hien Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 December 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Drawings*

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: "16" (Fig. 2).  
Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "2" has been used to designate both the housing (page 4, line 24) and the drum-like structure (page 5, line 24); "17" has been used to designate both the wales (page 5, line 13) and the mesh (page 6, line 30). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate

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prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings have not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the drawings to comply with CFR 1.84(p)(5), e.g. they should include the reference sign(s) mentioned in the specification and vice versa.

#### ***Specification***

5. The disclosure is objected to because of the following informalities:

On page 2, line 31 the reference to claim 1 is improper and should be deleted.

On page 4, between lines 10-11 --BRIEF DESCRIPTION OF THE DRAWINGS-- should be inserted.

Appropriate correction is required.

6. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

#### ***Claim Objections***

7. Claims 1-2 are objected to because of the following informalities:

In claim 1, line 15 "a" should be changed to --the--. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, lines 16-17 it is unclear as to which element contains a metal wire and protrudes past the first layer, e.g. the housing insert or the second layer.

In claim 4, line 4 "the wales" and in line 5 "the tube" have no clear antecedent basis.

In claim 5, it is unclear as to what structural limitation applicant is attempting to recite, what is intended by "the preponderant portion" and where it is shown in the drawings; in line 3 "preferably" should be deleted as it is unclear whether the limitations following the phrase are part of the claimed invention. See claim 6 likewise.

In claim 9, line 4 "the wales" has no clear antecedent basis.

In claim 17, line 2 it is unclear as to what structural limitation is implied by "acts as", how the housing insert can act as a filter or a catalyst. See claims 18-19 likewise.

In claim 19, line 3 "superfine" is vague and indefinite as it is unclear as to what types of particles are considered "superfine" particles.

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. The art area applicable to the instant invention is that of a device for the treatment of exhaust gases from internal combustion engine.

One of ordinary skill in this art is considered to have at least a B.S. degree, with additional education in the field and at least 5 years practical experience working in the art; is aware of the state of the art as shown by the references of record, to include those cited by applicants and the examiner (*ESSO Research & Engineering V Kahn & Co*, 183 USPQ 582 (1974) and who is presumed to know something about the art apart from what references alone teach (*In re Bode*, 193 USPQ 12, (16) CCPA 1977); and who is motivated by economics to depart from the prior art to reduce costs consistent with the desired product characteristics. *In re Clinton* 188 USPQ 365, 367 (CCPA 1976) and *In re Thompson* 192 USPQ 275, 277 (CCPA 1976).

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13. Claims 1-9, 13-14, 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maus et al (5,328,774) in view of Buck (DE 4,303,850 corresponding to US 6,284,201) and Leak (3,362,783).

With respect to claims 1-2, Maus et al discloses an apparatus for the treatment of exhaust gases from internal combustion engine comprising:

a housing having an exhaust gas inlet and an exhaust gas outlet; and

at least one housing insert arranged within the housing between the inlet and the outlet;

wherein the insert has an inflow side 1 facing the inlet and an outflow side 2 facing the outlet;

wherein the insert comprises at least one first layer extending between the inflow side and the outflow side, and at least one second layer extending between the inflow side and the outflow side and protruding past the first layer at least at the inflow side, the second layer comprising metal foil; and

wherein the exhaust gas flow passes through the housing insert essentially parallel to the layers (Fig. 6, col. 1, lines 24-31; col. 2, line 65 to col. 3, line 1).

The apparatus of Maus et al is substantially the same as that of the instant claims, but fails to disclose whether both layers are textile structures.

However, Buck and Leak disclose the conventionality of using textile structure for the layers of the catalytic structure.

It would have been obvious to one having ordinary skill in the art to select an appropriate material, such as textile structure as taught by Buck and Leak in the apparatus of Maus et al, since both structures are known in the art and no cause for patentability here. Note that it has

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been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

With respect to claim 3, Figs. 4A-4B in Buck show that the layers are mesh materials. Leak discloses that the layers may be mesh material (col. 2, lines 11-14, 32-34).

With respect to claim 4, Buck shows that the layers are knit mesh tube material (Figs. 12, 14, 16).

With respect to claims 5-8, Buck shows that the accordion-folded or rolled layers are connected in one piece (Figs. 12, 14, 16).

With respect to claim 9, Buck shows that the wales extend at right angles in respect to a connecting line from the inlet to the outlet (Figs. 9-10).

With respect to claims 13-14, Leak discloses that the material for the layer is metal mesh coated with catalytic material (col. 4, lines 28-45; col. 5, lines 36-62; col. 6, lines 23-38).

With respect to claims 17-19, Buck discloses that the insert acts as a soot filter and coated with a catalytic material, such as Pt, etc. which is considered as NOx catalyst (col. 2, lines 48-55; col. 9, lines 23-34).

14. Claims 10-12, 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maus et al (5,328,774) in view of Buck (DE 4,303,850 corresponding to US 6,284,201) and Leak (3,362,783) as applied to claim 1 above and further in view of Buck (5,571,298).

With respect to claims 10-11, Buck '298 discloses the conventionality of providing mineral fibers and metal wire as the material for the insert.



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It would have been obvious to one having ordinary skill in the art to one having ordinary skill in the art at the time the invention was made to select an appropriate material for the insert, such as mineral fibers and metal wire as taught by Buck '298 since mineral fibers can accept the high temperature in the exhaust gas from the internal combustion engine, and since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

With respect to claims 12, 15-16, the same comments with respect to Buck '201 and Leak apply.

#### ***Conclusion***

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Buck (4,940,476), Hitachi et al, and Becker et al are cited for showing state of the art.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hien Tran whose telephone number is (571) 272-1454. The examiner can normally be reached on Tuesday-Friday from 7:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Hien Tran*

HT  
March 17, 2005

**Hien Tran**  
**Primary Examiner**  
**Art Unit 1764**